

PORTABLE STAMP

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a portable stamp, and more particularly to a stamp which is easy to be operated and will not dirty a user's hands.

2. Description of Related Art

With reference to Figs. 12-13, a conventional portable stamp, as described in U.S. Patent Number 6,708,613, has a handle (70) with an open end. A linkage (71) is mounted in the handle (70) and extends outwards from the open end of the handle (70). A character unit (73) is pivotally mounted on a distal end of the linkage (71) by a first pivot member (72) and a character plate (74) is formed at an outer surface opposite to the hinge (72).

An ink pad (77) is pivotally mounted beside the linkage (71) by a second pivot member (75) with a torsion spring (76). An ink sponge (78) is provided on the ink pad (77). A cover (79) is mounted at the open end of the handle (70) to receive the character unit (73) and the ink pad (77).

In a received status where the cover (79) is mounted at the open end of the handle (70), as shown in Fig. 12, the character unit (73) is pivoted to abut the linkage (71), and the character plate (74) abuts the ink sponge (78) to receive ink.

When a user removes the cover (79), under the force of the torsion spring (76), the ink pad (77) is pushed to turn downward. Meanwhile, the character unit (73) can automatically pivot downwards to a position perpendicular to the linkage (71), so the user can stamp a document with the character plate (74). If the user holds the stamp in the situation of the character

1 unit (73) above the linkage (71), the character unit (73) will not pivot downwards
2 by itself. Thus, the user must manually turn the character unit (73) for stamping,
3 which makes use of the stamp very inconvenient.

4 After stamping, the user must respectively turn the character unit (73)
5 towards the linkage (71) and the ink pad (77) inwards, and then attach the cover
6 (79) to the handle (70). Thus, the user's hands are often dirtied with ink.

7 Moreover, after continuously stamping documents for sometime, the
8 character plate (74) will not have enough ink to print a clear mark and needs to
9 be re-coated with ink. The user must return the character unit (73) and ink pad
10 (77) into the cover (79) to re-coat the character plate (74) with ink for further
11 stamping. It is also very inconvenient for the user to repeat this process, and it is
12 easy for the user's hands to become dirtied.

13 Furthermore, the character unit (73) is pivotally mounted on the linkage
14 (71), and so it is difficult to stamp the character plate (74) with an even pressure
15 to print the mark clearly.

16 Therefore, the invention provides a portable stamp to mitigate or obviate
17 the aforementioned problems.

18 SUMMARY OF THE INVENTION

19 The main objective of the present invention is to provide a portable
20 stamp which is easy to be operated and will not dirty a user's hands.

21 Other objectives, advantages and novel features of the invention will
22 become more apparent from the following detailed description when taken in
23 conjunction with the accompanying drawings.

24 BRIEF DESCRIPTION OF THE DRAWINGS

1 Fig. 1 is an exploded perspective view of a portable stamp in accordance
2 with the present invention;

3 Fig. 2 is a front sectional view of the portable stamp in a received status;

4 Fig. 3 is a schematic view showing that a cover of the portable stamp is
5 detached;

6 Fig. 4 is a partially enlarged sectional view of a housing, a handle, and a
7 control unit of the portable stamp;

8 Fig. 5 is a partially enlarged sectional view of the control unit being
9 pressed downwards;

10 Figs. 6-7 are schematic views showing that a character unit and an ink
11 pad are pushed out from the housing of the portable stamp;

12 Figs. 8-9 are schematic views showing that the character unit and ink
13 pad are retracted in the housing;

14 Fig. 10 is an exploded perspective view of another embodiment of the
15 portable stamp;

16 Figs. 11A-C are schematic views of detaching the ink pad in the
17 embodiment in Fig. 10;

18 Fig. 12 is a front sectional view of a conventional portable stamp; and

19 Fig. 13 is a schematic view of the conventional portable stamp in a used
20 status.

21 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

22 With reference to Figs. 1-2, a portable stamp in accordance with the
23 present invention is composed of a housing (10), a handle (20), a character unit
24 (30), an ink pad (40), a control unit (50), and a cover (60).

1 The housing (10) has a hollow body (not numbered) with a U-like
2 tongue (11) formed at an open end of the housing (10). An elongated slot (12) is
3 defined through an upper side of the housing (10). A first hole (13) and a second
4 hole (14), both of which have a diameter that is larger than a width of the
5 elongated slot (12), are respectively defined at two ends of the elongated slot
6 (12). A notch (15) is defined between two opposite sides of the tongue (11).

7 The handle (20) has a sliding block (21) movably mounted in the
8 housing (10). A bar (22) extends from the sliding block (21) and is adjacent to
9 the upper side of the housing (10). A seat (23) is formed beneath the bar (22) and
10 is shorter than the bar (22). A space (24) is defined between the bar (22) and seat
11 (23) for receiving the character unit (30) and ink pad (40). A positioning opening
12 (25) is defined at a top side of the sliding block (21), and a lateral opening (26) is
13 defined at a side perpendicular to the top side and in communication with the
14 positioning opening (25).

15 The character unit (30) is pivotally mounted at a distal end of the bar (22)
16 by a first pivot pin (32). A first torsion spring (33) is provided outside the first
17 pivot pin (32). A character plate (31) is formed at a front surface opposite to the
18 first pivot pin (32). The torsion spring (33) has a first end abutting the bar (22)
19 and a second end abutting the character unit (30). Under the force of the first
20 torsion spring (33), the character unit (30) is pivoted outwards about the first
21 pivot pin (32) to a position perpendicular to the bar (22). When the character unit
22 (30) is pivoted inwards for being received, the inner half of the character unit (30)
23 will be located in the space (24).

24 The ink pad (40) is pivotally mounted at the seat (23) by a second pivot

1 pin (42). A second torsion spring (43) is provided outside the second pivot pin
2 (42). An ink sponge (41) is received in the ink pad (40) and faces the character
3 unit (30). The second torsion spring (43) has a first end abutting the seat (23) and
4 a second end abutting the ink pad (40). Under the force of the second torsion
5 spring (43), the ink pad (40) is pivoted downwards to a position perpendicular to
6 the seat (23). When the ink pad (40) is pivoted upwards for being received, the
7 ink sponge (41) is close to the bar (22) and abuts the character plate (31).

8 The control unit (50) has a button (51) inserted in the positioning
9 opening (25) and extending out from the first hole (13) when the handle (20), the
10 character unit (30) and the ink pad (40) are received in the housing (10). A
11 resilient member (52) is received in the lateral opening (26) and pressed under
12 the button (51). The button (51) has a clip (512) formed at a top end thereof. A
13 lug (511) is formed at a top surface of the clip (512). A neck (513) with a
14 diameter substantially equal to the width of the elongated slot (12) is formed
15 beneath the clip (512) and movable along the elongated slot (12). A stem (514),
16 with a diameter substantially equal to the diameter of the first and second holes
17 (13, 14), is formed beneath the neck (513). Two legs (515) are formed beneath
18 the stem (514), and a gap (516) is defined between the two legs (515). Thus, the
19 legs (515) can be deformed to be received in the positioning opening (25). Two
20 stops (517) are respectively formed at outer sides of the legs (414). With
21 reference to Fig. 2, the stops (517) are attached to a bottom edge of the
22 positioning opening (25) to fasten the button (51) in the positioning opening (25).
23 The resilient member (52) is pressed beneath the legs (515).

24 The cover (60) is mounted at the tongue (11) of the housing (10) to

1 receive the character unit (30), and the ink pad (40).

2 The housing (10) further has a dovetail slot (16) defined at an upper wall
3 thereof, and the bar (22) is formed with a dovetail cross section corresponding to
4 the dovetail slot (16). Thus, the bar (22) is limited to move along the dovetail slot
5 (16) in the housing (10).

6 With reference to Fig. 2, when the button (51) is positioned in the first
7 hole (13), the handle (20) is received in the housing (10). Under the force of the
8 resilient member (52), the button (51) is pushed upwards to position the stem
9 (514) in the first hole (13). The character unit (30) is pivoted to abut the bar (22),
10 and the ink pad (40) is pivoted to abut the character plate (31) with the ink
11 sponge (41). The cover (60) is attached to the tongue (11) of the housing. Thus, a
12 user can put the portable stamp in a pocket, or clip it on clothing by the clip
13 (512).

14 With reference to Figs 3-7, in use, the cover (60) is first detached from
15 the housing (10). Afterwards, the button (51) is pressed downwards to compress
16 the resilient member (52), and the stem (514) is removed from the first hole (13),
17 and the neck (513) is located in the first hole (13). Then, the button (51) can be
18 pushed towards the tongue (11) along the elongated slot (12). When the button
19 (51) arrives at the second hole (14), under the force of the second torsion spring
20 (43), the ink pad (40) is pivoted downwards through the notch (15) to the
21 position perpendicular to the handle (20). At the same time, the character unit
22 (30) is pivoted outwards under the force of the first torsion spring (33) to the
23 position perpendicular to the handle (20) and abutting the tongue (11).

24 Afterwards, the user releases the button (51), and the button (51) is

1 pushed upwards by the force of the resilient member (52), and the stem (514) is
2 blocked by the elongated slot (12). Thus, the character unit (30) can be used for
3 stamping and will not be retracted. Furthermore, the character unit (30) will not
4 be freely pivoted during the stamping procedure because the character unit (30)
5 is blocked by the tongue (11).

6 When the stamping procedure is finished, with reference to Figs. 8 and 9,
7 the user can press down the button (51) and push it towards the first hole (13).
8 The character unit (30) is pushed by the tongue (11) to pivot inwards to abut the
9 bar (22), and the ink pad (40) is pushed by a bottom edge of the housing (10)
10 beside the notch (15) to pivot upwards to abut the character plate (31) again.
11 Thus, the handle (20), the character unit (30), and the ink pad (40) are received in
12 the housing (10). Thereafter, the cover (60) is attached to the housing (10).

13 In a situation that the character plate (31) will not have enough ink to
14 print a clear mark, the user can recombine the character unit (30) and the ink pad
15 (40) by means of the processing mentioned above to recoat the character plate
16 (31) with ink. Thereafter, the character unit (30) is pushed outwards from the
17 housing (10) again for further stamping.

18 With reference to Figs. 10 and 11A, in another embodiment of the
19 present invention, the ink pad (40') is detachably mounted on the seat (23). The
20 ink pad (40') has a box (44) for receiving the ink sponge (41), and a finger (441)
21 is formed at a top side of the box (44). A connector (45) is mounted on the
22 second pivot pin (42) and has a passage (451) defined in the connector (45) for
23 receiving the finger (441). A lid (46) is attached to the box (44) for covering the
24 ink sponge (41).

1 With reference to Figs. 11A-C, when ink in the ink sponge (41) is
2 exhausted, the lid (46) can be attached to the box (44) to cover the ink sponge
3 (41). Then, the user can directly detach the box (44) from the connector (45) by
4 hand and replace it with a new box (44) with full ink. Because the ink sponge (41)
5 is covered by the lid (46), the hand(s) of the user will not be dirtied.

6 Therefore, the portable stamp can be easily used by the user operating
7 the control unit (50) and will not dirty the user's hands because the ink sponge
8 (41) will not touch the user's hands. Furthermore, the character unit (30) in the
9 stamping status is stably positioned by the first torsion spring (33) and the tongue
10 (11), so it is easy to stamp the character plate (31) with an even pressure for
11 printing a clear mark.

12 It is to be understood, however, that even though numerous
13 characteristics and advantages of the present invention have been set forth in the
14 foregoing description, together with details of the structure and function of the
15 invention, the disclosure is illustrative only, and changes may be made in detail,
16 especially in matters of shape, size, and arrangement of parts within the
17 principles of the invention to the full extent indicated by the broad general
18 meaning of the terms in which the appended claims are expressed.